

**SUPPLEMENTARY TABLE**

**Supplementary Table 1. Hosmer and Lemeshow goodness of fit test and Likelihood ratio test for model 1, 2, and 3 which employed in sensitivity analyses in Wave 1 and 2.**

Eye diseases	Outcomes	Hosmer and Lemeshow goodness of fit test			Likelihood ratio test	
		Model 1	Model 2	Model 3	Model 1 vs. Model 2	Model 2 vs. Model 3
Cataracts	<sup>1</sup> Arthritis (ALL)	0.877	0.325	0.092	***	***
glaucoma		1.000	0.017	0.000	***	***
Other eye diseases		0.984	0.580	0.400	***	***
Cataracts	<sup>1</sup> Arthritis (OS)	0.994	0.070	0.044	ns	***
glaucoma		1.000	0.023	0.066	**	***
Other eye diseases		0.952	0.057	0.155	ns	***
Cataracts	<sup>1</sup> Arthritis (RA)	1.000	0.124	0.000	***	***
glaucoma		1.000	0.021	0.001	***	***
Other eye diseases		0.993	0.296	0.000	***	***
Cataracts	<sup>1</sup> Arthritis (Other)	0.997	0.135	0.037	*	***
glaucoma		1.000	0.097	0.270	**	***
Other eye diseases		1.000	0.205	0.048	*	***
Cataracts	<sup>2</sup> Arthritis (ALL)	1.000	0.992	0.044	**	***
glaucoma		1.000	0.999	0.096	***	***
Other eye diseases		0.997	0.975	0.135	**	***

Abbreviations: <sup>1</sup>Arthritis (ALL), Arthritis (ALL) at Wave 1; <sup>1</sup>Arthritis (OS), Arthritis (osteoarthritis) at Wave 1; <sup>1</sup>Arthritis (RA), Arthritis (rheumatoid arthritis) at Wave 1; <sup>2</sup>Arthritis (ALL), Arthritis (ALL) at Wave 2; \*\*\*, p-value < 0.001; \*\*, p-value < 0.01; \*, p-value < 0.05; ns, no-significant.